Document of the Inter-American Development Bank

JAMAICA

INFORMATION AND COMMUNICATIONS TECHNOLOGY

(JA-0116)

LOAN PROPOSAL

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CONTENT

ANNEXES

Basic Socioeconomic Data

ENGLISH:

For basic socioeconomic data, including public debt information, please refer to the following address:
http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata

ESPAÑOL:

Los datos básicos socioeconómicos, incluyendo información sobre deuda pública, se encuentran disponibles en la siguiente dirección:
http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata

ABBREVIATIONS

ASP	Application Service Provider
CAP	Community Access Point
CAPI	Community Access Point Institution
CIO	Chief Information Officer
CIOG	Chief Information Officer of Government
CIT	Caribbean Institute of Technology
CITEL	Comision Interamericana de Telecomunicaciones
CITO	Central Information Technology Office
DOI	Digital Opportunity Initiative
E-HIPC	Enhanced Original Heavily Indebted Poor Countries
EU	European Union
FSL	Fiscal Services Limited
FSO	Fund for Special Operations
GOJ	Government of Jamaica
HEART/NTA	Heart Trust/National Technical and Vocational Training Agency
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
INTEC	Information Technology Project
ISP	Internet Service Provider
ITU	International Telecommunications Union
IMF	International Monetary Fund
IPR	Intellectual Property Rights
JCS	Jamaica Computer Society
JLS	Jamaica Library Service
LAN	Local Area Network
MIF	Multilateral Investment Fund
MICT	Ministry of Industry, Commerce and Technology
MIS	Management Information System
MOF	Ministry of Finance
NEP	New Economy Project (USAID funded)
ODG	Office of the Director General of the MICT
OECD	Organization for Economic Cooperation and Development
PCS	Personal Communications Services
PEU	Project Execution Unit
PIOJ	Planning Institute of Jamaica
PPIU	Procurement Policy Implementation Unit
PPF	Project Preparation Facility
SDA	Software Developers Association
SME	Small and Medium Enterprise
TBL	Trade Board Limited
USAID	United States Agency for International Development
USFCC	United States Federal Communications Commission
UNESCO	United Nations Educational, Scientific and Cultural Organization

UWI	University of the West Indies
VPN	Virtual Private Network
VOIP	Voice Over Internet Protocol
WB	World Bank

INTER-AMERICAN DEVELOPMENT BANK
Regional Operations Support Office
Operational Information Unit

JAMAICA

IDB LOANS

APPROVED AS OF SEPTEMBER 30, 2002

	US$Thousand	*Percent*
TOTAL APPROVED	***1,671,392***	
DISBURSED	*1,385,344*	*82.9%*
UNDISBURSED BALANCE	*286,047*	*17.1%*
CANCELLATIONS	*55,045*	*3.3%*
PRINCIPAL COLLECTED	*725,016*	*43.4%*
APPROVED BY FUND		
ORDINARY CAPITAL	*1,308,675*	*78.3%*
FUND FOR SPECIAL OPERATIONS	*163,778*	*9.8%*
OTHER FUNDS	*198,938*	*11.9%*
OUSTANDING DEBT BALANCE	***660,329***	
ORDINARY CAPITAL	*595,600*	*90.2%*
FUND FOR SPECIAL OPERATIONS	*64,729*	*9.8%*
OTHER FUNDS	*0*	*0.0%*
APPROVED BY SECTOR		
AGRICULTURE AND FISHERY	*160,484*	*9.6%*
INDUSTRY, TOURISM, SCIENCE TECHNOLOGY	*194,030*	*11.6%*
ENERGY	*173,241*	*10.4%*
TRANSPORTATION AND COMMUNICATIONS	*181,194*	*10.8%*
EDUCATION	*108,695*	*6.5%*
HEALTH AND SANITATION	*119,156*	*7.1%*
ENVIRONMENT	*11,830*	*0.7%*
URBAN DEVELOPMENT	*128,356*	*7.7%*
SOCIAL INVESTMENT AND MICROENTERPRISE	*86,021*	*5.1%*
REFORM PUBLIC SECTOR MODERNIZATION	*235,043*	*14.1%*
EXPORT FINANCING	*260,499*	*15.6%*
PREINVESTMENT AND OTHER	*12,842*	*0.8%*

**** Net of cancellations with monetary adjustments and export financing loan collecti***

Inter-American Development Bank
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Jamaica

Tentative Lending Program

2002

Project Number	Project Name	IDB US$ Millions	Status
JA0123	Emergency Reconstruction Facilitity Torrential Rains	16.0	APPROVED
JA0116	Information and Communication Technology	20.0	
	Total - A : 2 Projects	**36.0**	
	TOTAL 2002 : 2 Projects	**36.0**	

2003

Project Number	Project Name	IDB US$ Millions	Status
JA0119	Youth Development Program	15.0	
JA0106	National Irrigation Development Program	16.0	
JA0121	Micro and Small Enterprise Development Program	2.5	
JA0112	South Coast Sustainable Development Prog	14.0	
JA0114	Kingston Metro Water Supply Reha	40.0	
	Total - A : 5 Projects	**87.5**	
JA0125	Post-Secondary Education	16.0	
	Total - B : 1 Projects	**16.0**	
	TOTAL - 2003 : 6 Projects	**103.5**	
	Total Private Sector 2002 - 2003	**0.0**	
	Total Regular Program 2002 - 2003	**139.5**	

*** Private Sector Project**

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JAMAICA

STATUS OF LOANS IN EXECUTION AS OF SEPTEMBER 30, 2002

(Amounts in US$ thousands)

APPROVAL PERIOD	NUMBER OF PROJECTS	AMOUNT APPROVED	AMOUNT DISBURSED	% DISBURSED
Before 1996	1	6,850	6,027	87.98%
1996 - 1997	2	77,200	23,798	30.83%
1998 - 1999	3	54,900	8,048	14.66%
2000 - 2001	7	314,000	147,224	46.89%
2002	1	16,000	0	0.00%
TOTAL	14	$468,950	$185,098	39.47%

* Net of Cancellations . Excluding export financing loans.

INFORMATION AND COMMUNICATIONS TECHNOLOGY

(JA-0116)

EXECUTIVE SUMMARY

Borrower:	Government of Jamaica	
Executing agency:	Ministry of Industry, Commerce and Technology (MICT)	
Amount and source:	IDB (OC/IFF):	US$ 17 million
	Co financing:	
	Local:	US$ 6 million
	Total:	US$ 23 million
Financial terms and conditions:	Amortization Period:	25 years
	Grace Period:	66 months
	Disbursement Period:	60 months
	Interest Rate:	Variable
	Supervision and Inspection:	1%
	Credit Fee:	0.75%
	Currency:	US$ Single Currency Facility

Objectives:

The **goal** of the Project is to contribute to Jamaica's e-readiness and to support the development of the ICT sector, in order to increase competitiveness, diversify exports and expand productive employment. The **purpose** of the Project is to promote enhanced efficiency and access, thereby reducing transaction costs, and increasing ICT use in the private, public sectors and civil society.

Description:

The Project consists of four components:

(a) Strengthening of the MICT to permit it to play a leading role in increasing Jamaica's e-readiness, to spearhead and manage the policy and strategic framework for the sector, and to promote the increased use of Information and Communications Technology (ICT). Resources will also be provided for implementing, monitoring and auditing the Project.

(b) Support for increased use of ICT in the public sector in

order to increase transparency, efficiency and effectiveness, by introducing E-government (Government online) in key agencies to improve efficiency in the public and private sectors, and to enhance the value of the internet to Jamaica by increasing the amount of relevant content available online. This component will support activities that will permit businesses and citizens to pay taxes on-line and obtain permits for the import and export of goods on-line. Additionally, an e-procurement feasibility study will be funded.

(c) Support for expanding Internet access in low income communities, selected by predefined criteria, in order to bridge the digital divide. This community access program provides connectivity but also training to the communities in their use of technology and funding to develop local, relevant content; and will increase community access to the Internet in low-income areas by establishing 60 Community Access Point (CAP) sites throughout the country, and

(d) Training related to all project components as well as a human resource development program to train ICT professionals in both hardware and software applications.

Bank's country and sector strategy:

The Bank strategy for Jamaica has two main objectives. The first objective is to support the establishment of a satisfactory macroeconomic framework. The second objective is to promote an improved environment for long-term private sector-led growth. Two key elements necessary to achieve the second objective are to increase productivity and competitiveness and to reform the regulatory and institutional framework affecting the business environment. The proposed Project directly supports increases in productivity and competitiveness, and will also support reforms of the legal/regulatory environment for ICT activities to provide adequate incentives for private sector participation.

Environmental/ social review:

The Project inputs are basically technical assistance, training, computer equipment and software, and therefore it is not expected to have any negative environmental effect. The Project gives particular emphasis to providing connectivity and training to low-income individuals, as based on predefined criteria. Specific measures have been included to expand outreach to enable marginalized communities to use and benefit from the opportunities provided by access to the world wide web. Selection

criteria have been developed and incorporated into the Operations Manual to ensure that there is gender balance and that low-income individuals benefit fully from the Community Access Points (CAPs). Extensive consultation with governmental agencies and civil society were held during the design of this component. The community outreach component builds on the experience of the UNDP-sponsored Jamaica Sustainable Development Network, and lessons learned from experience in CAP development worldwide.

Throughout the development of the Project consultations were held with major stakeholders and civil society. The Project design commenced with a seminar attended by over 200 individuals that was followed by a series of workshops to discuss possible Project components. During an Orientation Mission in July 2002 a workshop was held to refine the logical framework. Over 40 individuals from the private and public sectors and civil society attended the workshop.

Benefits:

Export expansion is vital to the achievement of economic growth and employment in Jamaica. With the prospect of declining preferential treatment in traditional markets, Jamaica has to diversify its exports and raise its international competitiveness. While Jamaica has a competitive advantage in tourism, it is necessary to promote and develop other service sectors, particularly those that could provide higher wages and salaries. Jamaica has many attributes necessary to participate actively in the global information industry, including labor costs that are relatively low in comparison with the U.S. and other developed countries; linguistic, cultural and time-zone affinities with major markets in North America; relative transport convenience (for air-freight-oriented information services); and an open environment for private investment.

Investments in information and communications technology (ICT) can have an important, positive effect on productivity. First, they increase the productivity of service sectors that rely on information processing and management. Second, they expand the market – in ways beyond what traditional telephone lines can accomplish - and enhance competition. Third, they offer the prospects of extraordinary changes in the ways and periodicity in which people get educated and upgrade their skills. Finally, they enable the establishment of low cost networks of peoples with similar problems and interests, thus potentially enhancing mobility across cultural and geographical barriers.

The E-government component is expected to increase efficiency, and effectiveness which will eventually lead to reduced

government costs and to reduce the costs faced by citizens as they transact with government. The net savings that would accrue from implementing e-government in the fiscal agencies has a financial pay back period of five years. The financial internal rate of return (IRR) for the most likely scenario was estimated at 22%. The e-procurement feasibility study is expected to provide the guidance for establishing an e-procurement system. The human capital component is expected to ensure that the beneficiaries of the project components are suitably equipped to take advantage of the opportunities provided by the new technologies, as well as to create an infrastructure of trained IT professionals to encourage foreign direct investment in ICT.

Special contractual clauses:

a. **Conditions prior to the first disbursement of the Loan**

- Project Steering Committee established (para. 3.2.)
- Commercial bank accounts opened for the Bank's revolving fund and local counterpart (para. 3.12.)

b. **Conditions of execution**

- Before any disbursement of funds for the E-Government Component is made, the Memorandum of Understanding (MOU) between MICT and the Ministry of Finance (MOF) will have been signed, and an Operations Manual, acceptable to the Bank, will have been adopted for the implementation of this component (para 3.11.)
- Before any disbursement of funds for the Community Outreach Component is made, the Community Access Point Institution (CAPI) Board should have been appointed and convened, and an Operations Manual, acceptable to the Bank, will have been adopted for the implementation of this component (para. 3.40)
- Before any disbursement of funds for the Human capital development component is made, the Memorandum of Understanding (MOU) between MICT and HEART/NTA will have been signed and an Operations Manual, acceptable to the Bank, will have been adopted for the implementation of this component (para3.8.)
- Three years from the date of loan effectiveness or when 50% of loan funds have been committed a mid-term review will be carried out focusing on the institutional aspects and the achievement of key outcomes of Project execution in accordance with terms of reference agreed with the Bank

(para. 3.25.)

- Two years after final disbursement of Project funds, an *ex post* evaluation will be carried out in accordance with terms of reference agreed with the Bank (para. 3.28.). US$100,000 will be reserved for this Purpose from the counterpart resources.

Poverty-targeting and social equity classification:	No
Exceptions to Bank policy:	None
Procurement:	The Executing Agency will follow Bank policies and procedures for procurement of goods and services financed by the Bank. The Executing Agency will use international competitive bidding for all contracts valued more than US$350,000 in the supply of general goods and services; and US$200,000 in the supply of consulting services.

I. FRAME OF REFERENCE

A. Social and Economic Framework

1.1 Jamaica's population is about 2.6 million and is growing at less than 1% per year (0.6% in 1999-2000), as a result of a low birth rate and high out-migration. There are significant numbers of Jamaicans residing overseas, primarily in the United States, Canada and the United Kingdom. The remittances of these migrants have consistently provided a substantial inflow of economic resources, reaching US$ 809 million or 11 percent of GDP in 2001. The country's population is young, with an estimated 31% less than 15 years old in 2000, compared to 21% in the US and 19% in Canada. Unemployment is high (about 16%) and has contributed to the high levels of migration experienced in the past decade.

1.2 Economic policy in the 1990s has emphasized macroeconomic stability through monetary restraint and financial sector reform. This policy succeeded in reducing inflation from an average rate of 40% in the early half of the decade to a low of 6% in 2000. In addition, international reserves have accumulated consistently through the 1990s, reaching a level of over six months of import coverage.

1.3 This policy framework however, has been accompanied by high interest rates, high fiscal deficits, averaging 8% in the mid-1990s and by escalation of debt, especially domestic debt. Due to these conditions, growth performance was sluggish in the 1990s as a whole, and negative in 1996-1999. High debt service payments have resulted in reductions in the level of investment in the public sector.

1.4 An IMF Staff Monitored Program, agreed in July 2000, established the framework for macroeconomic management in the period 2000-2002. Within this framework, the Government of Jamaica has received assistance from the Bank and the World Bank to support its Financial Sector Reform Program and social safety net reform. Subsequently, there was a turnaround in performance with growth of one percent and two percent in 2000 and 2001, respectively. The 2001 growth occurred against the background of major adverse shocks that affected the economy and caused some slippage in the fiscal program. In 2002, the Jamaican economy continues to be affected by adverse shocks, the most recent being the occurrence of severe flood damage following heavy rains in May-June, 2002.

1.5 Despite strong efforts to achieve fiscal balance, reflected in the attainment of primary surpluses of 10-12 percent of GDP, containment of the fiscal deficit continues to be a major challenge, mainly as a result of high debt servicing obligations. Up to now, the Government of Jamaica (GOJ) has been able to provide the necessary counterpart funding for Bank projects but it remains an issue requiring continual attention over the short to medium term.

B. The Information and Communications Technology (ICT) Sector

1.6 When the state-owned telephone company was privatized in 1990, it received 25 years exclusivity for most telecommunications services. In 1999, the Government of Jamaica (GOJ) reached an agreement with C&W to reduce the exclusivity period. This agreement included a timetable to liberalize the markets gradually and to achieve full liberalization (all services) by February 2003[1]. Two additional cellular licenses were granted through an auction process, and one of the two cellular firms began operations in early 2001 and the other started operations in the fourth quarter of the same year. A fourth cellular license will be granted in the next few months in the Personal Communications Services (PCS) band.

1.7 Teledensity in Jamaica is relatively high. In 2001, there were 20 fixed lines per 100 inhabitants, compared to 10 in Central America. Internet usage (users per 100 inhabitants) was 3.8 in Jamaica and 2.8 in Central America in the same year (Table 1).[2] There are approximately 4,500 businesses with Internet accounts, representing 9% of businesses in Jamaica. In 1999, Jamaica had about 20 Internet Service providers (ISPs), of which five had direct international connectivity and the rest used Cable and Wireless' (C&W) international gateway. The total number of ISPs reached 36 in 2002. There has been a very sharp increase in the number of cellular subscribers. These increased from 3 per 100 inhabitants in 1999 to 14 in 2000, and to 27 in 2001 (Table 1). This extremely fast increase in the number of cellular subscribers is a result of the favourable legal and regulatory framework.

1.8 The sharp increase in the number of subscribers, particularly cellular subscribers, and the decline in rates, are indicators of the success of the liberalization of the telecommunications sector. Further reforms of the legal/regulatory framework, including the enactment of a new telecommunications act and the issuance of the relevant regulations would further improve this framework. Main changes required include: (a) establishing a single regulatory body that would include the functions of the telecommunications staff of the Office of Utilities Regulation (OUR) and the Spectrum Management Authority. The Institutional Reforms related to the incorporation of the functions of the Broadcasting Commission within the single Regulatory entity will be done on a phased basis; (b) delineating responsibilities more clearly between the telecommunications regulator and the Fair Trading Commission (FTC); (c) redefining universal access; (d) empowering the regulator to establish minimum service level standards; (e) improving the legal/regulatory regime for interconnection; (f) permitting certain categories of licenses to be issued by the regulatory agency (ies); and (g) proceeding with rate rebalancing. Support to the GOJ in the drafting of the new laws and regulations will be provided by the proposed Project.

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[1] Essentially all services, with the exception of international voice telephony, are now liberalized. International voice telephony will be liberalized in 2003.

[2] Averages for Central America are simple averages, i.e. not weighed.

1.9 In the context of a common law country such as Jamaica, the necessity of e-commerce legislation is not obvious.[3] Nevertheless, in order to strengthen the legal framework for e-transactions, the GOJ is drafting e-commerce legislation that will be submitted to Parliament. USAID is providing funding to assist in the drafting of this legislation.

TABLE 1: KEY DEMOGRAPHIC, ECONOMIC, TELECOMMUNICATIONS AND INTERNET INDICATORS- CARICOM COUNTRIES.[4]

Country	Population (000 000) in 2001	% Population < 15 yrs (in 2000)	Per capita GDP (2000)	Fixed Tel, Lines per 100 inhabit. (2001)	Cellular subs per 100 inhabit (2001)	Internet users in 2001 Number (000)	Internet users per 100 inhabit	Estimated PCs in 2000 Total (000)	Estimated PCs Per 100 inhabit
Bahamas	0.31	32	11,001	40.03	19.66	16.9	4.10	na	
Barbados	0.27	24	9,247	46.29	10.64	10.0	2.23	25	9.33
Belize	0.24	41	3,066	14.44	11.55	18.0	4.30	33	13.52
Guyana	0.87	35	881	9.19	4.54	na	Na	23	2.64
Haiti	8.27	40	461	0.97	1.11	30.0	0.36	na	Na
Jamaica	**2.60**	**31**	**2,917**	**19.73**	**26.94**	**100.0**	**3.85**	**130**	**5.0**
Suriname	0.44	33	1,921	17.58	19.11	14.5	3.30	na	Na
Trinidad and Tobago	1.30	28	4,726	23.99	17.34	120.0	9.23	90	6.92

1.10 Jamaican ICT exports range from relatively low value-added services such as call centers to relatively high value-added services such as computer-assisted design and computer aided manufacturing. The Software Developers Association (SDA) was established in April 2000 and currently comprises of 16 software companies. The purpose of the SDA is to promote the development of the local software industry and to market their applications internationally. SDA seeks to promote international standards in the quality of their products at competitive prices. This group works closely with the Jamaica Promotions Corporation (JAMPRO). The European Union (EU) is supporting the SDA. Most of the software being exported is to the Caribbean Region but a few companies are exporting to the U.S. and to the rest of the world. Some of the clients are large corporations such as Boeing and BMW.[5]

[3] For example, the US e-signature law was signed into law in 2000, after US$ billions in transactions took place.

[4] ITU Internet indicators 2000/ Population Reference Bureau "2000 World Population Data Sheet".

[5] Allied Research Associates Ltd., Jamaica's E-readiness Assessment, January 2002

1.11 A recent survey commissioned by JAMPRO shows direct employment in the ICT sector stood at 11,900 persons as of March 2002, an increase of 25% compared to the 9,500 persons a year earlier (Table 2).

TABLE 2: EMPLOYMENT BY MAIN LINE OF ICT BUSINESS (200-2002), AND AVERAGE AND TOTAL EMPLOYMENT BETWEEN ICT SUB-SECTORS (MAR 2002).[6]

Main Business Activity	No. of workers in March:			2002	
	2000	2001	2002	No. of jobs per company	No. of companies
Distribution	699	705	874	13	67
Voice telephony	4,904	5,090	1,913	971	3
Data transmission	168	199	191	18	11
Call centre/telemarketing	734	811	812	115	7
Transactions processing	110	106	620	70	9
Fax, paging, teleconferencing	18	8	23	7	4
IT consulting	379	398	254	11	21
Training	243	265	307	9	34
Software development	214	248	654	19	34
Data processing	578	976	4,031	190	21
Maintenance & repair	96	103	329	10	34
Graphic and web content	101	104	193	10	19
Other	494	493	673	57	12
TOTAL	**8,741**	**9,504**	**11,873**	**43**	**275**

1.12 The salient feature of ICT sector employment is its dynamism. The main growth area was data processing, where employment increased fourfold in the last year to account for 33% of direct ICT employment in 2002. Other important fields also exhibited strong growth between 2001 and 2002, particularly transactions processing (six-fold increase), computer maintenance and repair (two-fold increase), software development (163%), and graphic and web content (85%). Employment in traditional voice telephony declined significantly, for a total loss of 3,000 jobs last year, in part reflecting a push for efficiency in the face of a liberalized market and stiff competition.

1.13 There is strong interaction between ICT training and investment in the sector. For example, a new operation, established in Montego Bay in 1999, provides programming services for the US financial services industry. High school graduates who have taken a ten to twelve-month course at the Caribbean Institute

[6] "Survey of Employment in the Information and Communication Technology Sector – Findings and Analysis", prepared for JAMPRO by Rohan Bell of Research & Analysis Associates.

of Technology (CIT) carry out the programming, and on average their incomes have tripled after taking the course.

1.14 In summary, the ICT sector in Jamaica is fairly advanced. This is confirmed in the 2001 *Economic* and *Social Progress in Latin America Report*.[7] The Technology Index for Jamaica exceeds what would be expected for a country of its level of income. In order to accelerate the development of the sector, Ministry of Industry, Commerce and Technology should be strengthened, human capital in ICT has to be increased, the public sector should become a model user of ICT, and greater access must be provided in low-income areas.

C. Institutional Aspects of the Information and Communications Technology Sector

1.15 The main responsibility for promoting the use of ICT in Jamaica rests with **the Ministry of Industry, Commerce and Technology (MICT)**. A coherent strategy for the development of the ICT sector was developed by the MICT with the support of the U.S. Government Services Administration (GSA).[8] This strategy included elements to increase the size of the network, with particular emphasis on the unconnected ("bridging the digital divide") and actions to increase the value of the network, including e-Government and training, and legal reforms to encourage e-transactions.

1.16 A project was initiated in 2000 to promote the use of ICT in the public and private sectors, with a particular focus on human capital development, the creation of jobs through the promotion of E-exports and the development of the local ICT industry. This project is known as the Information Technology Project (INTEC) and is being managed by the Office of the Director General of the MICT.

1.17 The MICT established in May 2001 the **Central Information Technology Office (CITO)**. The main purpose of the CITO is to monitor the implementation of the ICT strategy, including coordinating ICT plans by the different ministries and developing domestic and international partnerships to promote ICT. CITO's main mandate is strategic planning, while the different ministries and agencies carry out the implementation of projects and programs.

1.18 **JAMPRO** is an autonomous agency under the MICT. The main purpose of JAMPRO is to attract foreign direct investment to Jamaica and to facilitate trade. Another agency under the MICT that is increasing the use of ICT is the **Trade Board Limited** (TBL). The TBL issues import permits, mainly for vehicles, and has established a web site to permit customers to download application forms.

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[7] Inter-American Development Bank, *The Business of Growth*, 2001, page 18.

[8] The U.S. Agency for International Development provided significant support to the Bank in the design of the proposed ICT Project.

1.19 The **Ministry of Finance** (MOF) has been the leading user of ICT in the public sector. Fiscal Services Limited (FSL), a limited liability company under MOF, has been successful in automating the business processes of several of the fiscal agencies.[9] In the case of the Jamaica Customs Department, FSL succeeded in developing a system that permits customs brokers to obtain import permits from the Customs Department via the Internet. Ninety nine percent of brokers are using the system. The brokers who request import permits on-line have reduced their costs of dealing with the Customs Department and transparency has increased. A system of payments is being tested in cooperation with the Bank of Nova Scotia Jamaica. The Procurement Policy Implementation Unit (PPIU), also under the MOF, is considering the introduction of an e-procurement system throughout Government.

1.20 **Heart Trust/National Technical and Vocational Training Agency (HEART/NTA)** is a statutory organization of the Government of Jamaica whose mission is to support technical and vocational training in both the public and the private sectors. It is funded largely by contributions of 3% of the total payroll. It has developed an expertise in training management, including selection, contracting and evaluation of courses; financial management of training related activities; and recruitment and selection of course participants. While it owns a network of Academies and Vocational Training Centers, it uses private sector training institutions for ICT training.

1.21 **T**he **Caribbean Institute of Technology (CIT)** offers a twelve-month course for the preparation of proficient entry-level computer programmers and software designers. It was initially started in February 1999, as a result of a partnership among the University of West Indies, Fuhrman University (Greenville, South Carolina), HEART/NTA, MICT, the Montego Bay Free Zone, the International Development Consortium (affiliated with the University of Hertsfordshire in London), and a software company, Indusa (Atlanta, Georgia). Training has been funded by the Government of Jamaica, through the Information Technology Employment Creation Project of the MICT, and has been administered by HEART/NTA. Course content includes relational databases, HTML, Visual Basic, C++, Active X Controls, and other advanced programming and system design topics. Graduates have been very successful in obtaining employment after completing the program. Scholarships have been funded by the GOJ using some of the fiscal resources that were generated from the sale of spectrum through auction to two cellular providers.

1.22 The **CISCO Networking Academy** program (10-month course) prepares students to design, build, and maintain computer networks. This program is a result of an agreement between the GOJ, UNDP and CISCO. UNDP has equipped one computer laboratory in the Regional Academy at Stony Hill, in Kingston, and will equip one more. CISCO has provided the training of four trainers, and software

[9] FSL is a systems integrator, Internet Service Provider (ISP) and Application Service Provider (ASP) for the Ministry of Finance.

and equipment necessary to use its technology. The GOJ, through HEART/NTA manages the program and provided the initial physical space and some equipment. The program delivers web-based content, online assessment, student performance tracking, hands-on labs, instructor training and support and preparation for industry-standard certification. It is expected that the CISCO Academy will attract foreign students, mainly from other Caribbean countries.[10]

1.23 There are numerous **privately owned ICT training centers** in Jamaica. These offer high quality training in the main computer applications, and are frequently contracted by HEART/NTA to provide training in the context of governmental programs. Their offer includes programs for computer operators, data entry clerks, application programmers, and programmers/analysts. Many of these training centers have been certified to offer training by the different software companies such as Microsoft and others.

1.24 Two major **universities** provide Computer Science degrees: the University of the West Indies (UWI) and the University of Technology (UTECH). UWI offers both bachelors and master degrees, while UTECH offers courses only at the undergraduate level. Both face resource limitations (space and trained teaching staff) that prevent them from taking in more qualified students applying to the program. They will participate in the Project through the offering of specialized non-academic courses, and by supporting the technological entrepeneurship module in the CIT curriculum.

1.25 The **Jamaica Computer Society** (JCS) was established 25 years ago and its purpose is to promote the effective and efficient use of ICT in Jamaica. The JCS holds an annual conference and periodic seminars and publishes quarterly publication to describe current and future trends in the industry. In addition, the JCS has received support from the Bank to improve computer literacy in schools.

D. Bank Strategy in Jamaica

1.26 The Bank strategy for Jamaica has two main objectives. The first objective is to support the establishment of a satisfactory macroeconomic framework. The second objective is to promote an improved environment for long-term private sector-led growth. Two key elements necessary to achieve the second objective are to increase productivity and competitiveness and to reform the regulatory and institutional framework affecting the business environment. The proposed Project directly supports increases in productivity and competitiveness, and will also support reforms of the legal/regulatory environment for ICT activities to provide adequate incentives for private sector participation.

1.27 The Information and Communications Technology (ICT) sector is characterized by important and positive network externalities and by sharply declining marginal costs in important segments of the sector, and this provides a justification for state

[10] There are more than 4,000 CISCO academies worldwide. CISCO and UNDP have entered into a partnership to facilitate the establishment of academies in developing countries.

intervention.[11] The proposed Project has been designed to strengthen the ICT sector in Jamaica through a number of coordinated interventions. It is expected that the Project will contribute to economic diversification.

E. Bank and Other Donor Experience in Jamaica's ICT Sector

1.28 Between 1991 and 2000 the Jamaica Computer Society Education Foundation executed two projects financed by the IDB and the World Bank that supported the introduction of computer-assisted teaching and established computer labs throughout the country. The Ed Tech 20-20 project focused on four clusters of primary-secondary schools (Ed-Tech 20/20); while the Jamaica 2000 project established a total of 165 laboratories in secondary and tertiary schools. Both programs have tried to encourage the opening up of these labs after school hours to service the community at large. Some schools, such as the Spanish Town High School and Jonathan Grant High School, are using their labs to teach computer literacy and office applications to adults after school hours for a fee of about US$133/year, but there are institutional limitations to a greater expansion of the program. The main constraint is that a majority of schools in Jamaica already make intensive use of their facilities, serving students in two shifts and using premises until about 5:00 p.m. thus leaving little time for after school-hour service.

1.29 The Y2K Public Sector Remediation Project was approved in October 1999. The Loan was for US$10 million and the purpose of the project was to minimize the risk of economic and social disruptions that could have resulted from Year 2000 compliance failures. The conditions prior to implementation were met within the deadlines and the Project subsequently achieved all its objectives. To facilitate their work, the Y2K Project Office established formal reporting structures and created within each Government agency Y2K project teams, which reported the progress of its remediation efforts to the Project Execution Unit (PEU) monthly. This mechanism provided the channel for free flow of information, which reached levels of cooperation not previously experienced among this group of professionals in Jamaica. The networking and information sharing channels continue to be utilized on an informal basis by managers who learned their benefits during the Y2K Program. The effectiveness of the inter-agency coordination was directly attributable to the completion of all mission-critical work before the beginning of 2000.

1.30 The work of the Y2K Committee brought new awareness to the critical nature of the Information and Communication Technology (ICT) Infrastructure. In part, involvement in the Project provided the platform for preparation of the ICT strategy. Also the Project brought to the fore greater awareness of information technology in economic development and pioneered a new culture of cooperation

[11] Network externalities occur because each additional computer connected to the net increases the value of the connection for all computers already connected. Metcalf's Law posits that the value of a network increases in proportion to the square of the number of nodes in the network.

among public sector professionals involved in its implementation. These outcomes of the Y2K Public Sector Remediation Project will facilitate the implementation of the proposed Project.

1.31 Resources from the bank Pre-Investment Loan were used to examine the legal and regulatory framework for e-commerce and to identify changes that would make it easier to carry out transactions using the Internet. The consultants concluded that while the present legal framework does not preclude e-commerce, legal reforms may be required to accelerate the use of the Internet to complete transactions. The USAID-funded New Economy Project (NEP) is providing resources to the GOJ to improve the legal framework for e-transactions along the lines suggested by the Bank-financed consultancy, which included the drafting of the Terms of Reference. The USAID assistance includes support for drafting legislation for e-transactions, e-signatures, computer fraud and misuse, and revisions of GOJ regulations under the Financial Administration and Audit Act, Revenue Administration Act and Public Procurement Laws. Initially, during a period of about one year, a number of regulatory changes will be undertaken to improve the framework. At the same, legislation for legal reform will be drafted and will be submitted to Parliament. The New Economy Project also provided resources to define critical elements of the proposed Project such as the Community Outreach Component and the Human Capital Component.

1.32 The UNDP established the Jamaica Sustainable Development Networking (JSDN) Program in November 1997. The program has been highly successful. This program has established a total of six community CAP sites over the past two years, two in Montego Bay, one in Bluefields (Westmoreland) run by the branch library, one in Lionel Town run by the Caribbean Conservancy, one in the International School of Jamaica in Port Maria, and one in Liguanea, close to the University of West Indies (Mona campus). JSDN supports these centers with technical assistance and requires participating institutions to adhere to predetermined standards of community service. Fees charged for the use of the Internet are about US$2/hour. The CAP sites have reached financial equilibrium. JSDN also uses a sound CAP site development strategy, focused on local initiative. On the one occasion in which local communities did not meet their agreement, JSDN proceeded to repossess the equipment for use elsewhere.

1.33 The GOJ has funded the establishment of one CAP site in each of the country's 14 Parish libraries. The one in Kingston-St. Andrew has two areas of service, one consisting of three computers for the use of adults, with a fee of about US$2/hour. A second one, with about a dozen computers sponsored by a charitable organization of business persons, is located in a special room for children and charges about US$1.30/hour.

F. International Lessons Learned

1.34 The Final Report of the Digital Opportunity Initiative (DOI) of July 2001: "Creating a Development Dynamic"[12] contains a thorough analysis of the considerations that should be taken into account in the design and implementation of ICT programs based on an analysis of successful experiences in developed and developing countries. A key conclusion is that a **comprehensive and holistic approach** is the most effective way to promote synergies and maximize the impact of ICT. According to the Final Report, interventions should include building human capacity; creating incentives for the private sector, particularly for E-exports; developing appropriate local content; reducing the "digital divide" by providing greater access to the Internet to low-income individuals; and increasing competition, especially among telecommunications and Internet-related businesses. The design of the proposed Project is fully consistent with those recommendations.

1.35 The Agenda for Connectivity of the Americas prepared by the Inter-American Telecommunications Commission, also recommends a holistic approach to the promotion of ICT in a society. It concludes that actions to expand the network, to promote its increased use, and to develop relevant content are necessary. It also advocates very active consultation with civil society.[13]

G. Bank and Other Donor Experience in Integrated ICT Projects

1.36 Bank experience has been mostly limited to the introduction of ICT in projects, for example, in modernization of the state, education or social development programs. An example of a Bank project with a strong ICT component is the Barbados Education Sector Enhancement (BA-0009). Other Donor experience with ICT programs has been similar to the IDB's, i.e. with ICT as an element of a project.[14]

1.37 With the design of Guyana's Information and Communication Technology Project (GY-0066) and the present operation in Jamaica, the Bank has taken the lead amongst international agencies in supporting integrated ICT development initiatives. The present project is considerably different to the Guyana operation, on account of differences in context and stage of development. Nevertheless, both operations share the same holistic approach to ICT development.

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[12] Accenture, the Markle Foundation and UNDP sponsored the Final Report of the Digital Opportunity Initiative (DOI). It is a result of extensive cooperative work between DOI and the International Telecommunications Union (ITU), the Organization for Economic Cooperation and Development (OECD), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and developing countries.

[13] *Agenda for Connectivity of the Americas*, Inter-American Telecommunications Commission, 31 July 2002.

[14] Several countries have implemented strategies to promote a greater use of ICT in the public sectors. Notable among developing countries are South Korea, Estonia and Colombia. These programs have been funded largely by domestic fiscal resources.

1.38 Several member countries have implemented integrated strategies to promote ICT either at the national or regional level. Notable examples include Canada, Colombia, Israel and the United States. Other countries that have implemented coherent ICT strategies include Estonia and South Korea. Lessons learned include the importance of an integrated approach, the necessity of having a legal/regulatory framework that supports competitions in telecommunications, the importance of human capital development, the key role the government can play as a model user of the technology, and the need to carry out actions to bridge the digital divide.

II. THE PROJECT

A. Objectives

2.1 The goal of the proposed Project is to contribute to increase Jamaica's readiness for the network world, in the public and private sectors and civil society, in order to increase competitiveness, diversify exports and expand productive employment. It is expected that Jamaica will advance in several indicators from Stage 2 to Stage 4 according to the ranking of e-readiness developed by the Center for International Development at Harvard University. The purpose of the Project is to promote enhanced efficiency and access, thereby reducing transaction costs, and increasing ICT use in the private, public sectors and civil society.[15]

2.2 The Project consists of four components that act on the supply and the demand side, and are designed to exploit synergies and network externalities consistent with the best practices discussed in the Markle Foundation Report and in the Agenda for Connectivity of the Americas.[16] First, support to the MICT to permit it to play a leading role in increasing Jamaica's e-readiness, to further enhance competition in telecommunications and to monitor results. Second, support for increased use of ICT in the public sector in order to increase transparency, efficiency and effectiveness and to enhance the value of the network by increasing the amount of content, relevant to Jamaicans, that is available in the Internet. Third, support for expanding Internet access in low-income communities in order to bridge the digital divide. This community access program provides connectivity but also training to the communities in their use of technology and funding to develop local, relevant content. Given the importance of human capital in the development of a knowledge society, the Project provides funding for training related to all project components, and a human resource development program to train ICT professionals in both hardware and software applications. Project components are discussed below.

B. Project Components

1. Strengthening of the MICT (US$ 3.7 million)

2.3 The MICT is responsible for coordinating the national ICT strategy and for implementing the INTEC project. The ICT Strengthening Component will finance technical assistance to the Office of the Director General of the MICT to improve its capacity to manage the IDB Project. The Project will finance long-term technical assistance to attend to the special technical requirements of

[15] Details are given in the Logical Framework

[16] Network externalities occur because each additional computer connected to the net increases the value of the connection for all computers already connected. Metcalf's Law posits that the value of a network increases in proportion to the square of the number of nodes in the network.

managing the Project, as well as short-term consultancies to refine and implement a Management Information System (MIS) to track the results of the Project. The MIS is being developed with support from the Japanese Consultants Fund. These studies will include data on gender to encourage equal opportunity for all. It will also finance the costs of a mid-term review and *ex post* evaluation of the Project and a monitoring system to track the results of the training Program.

2.4 This Project component will also finance technical assistance to strengthen CITO to implement and periodically update the ICT strategy, develop a monitoring system and develop action plans for the introduction of ICT in sectors such as education, health and agriculture. Consultations with civil society and the private sector will be supported. One long-term advisor will be financed to the equivalent of two person years.

2.5 Resources will be provided to support further reforms in the legal/regulatory framework for telecommunications. These reforms will perfect the present framework to ensure that the important gains realized since liberalization commenced are consolidated and deepened. The legal and institutional reforms supported will include: (a) establishing a single regulatory body that would include the functions of the telecommunications staff of the Office of Utilities Regulation (OUR) and the Spectrum Management Authority. The Institutional Reforms related to the incorporation of the functions of the Broadcasting Commission within the single Regulatory entity will be done on a phased basis; (b) delineating responsibilities more clearly between the telecommunications regulator and the Fair Trading Commission (FTC); (c) redefining universal access; (d) empowering the regulator to establish minimum service level standards; (e) improving the legal/regulatory regime for interconnection; (f) permitting certain categories of licenses to be issued by the regulatory agencies; and (g) proceeding with rate rebalancing. The Project will finance technical assistance for the drafting of laws and regulations and for training.

2. E-Government (US$ 6.9 million)

2.6 The E-Government component will support efforts in three areas: (a) putting a number of **fiscal agencies** on-line; (b) web enabling the operations of key **trade agencies**; and (c) supporting an **e-procurement** feasibility study. The main objective of the E-Government component is to reduce the transaction costs incurred by citizens and businesses when they deal with Government. The component will also reduce government expenditures in personnel and will permit the avoidance of costs that would have had to be incurred to increase the number of Tax Collection Offices. The component will also increase the efficiency and effectiveness of fiscal and trade agencies and will finance an e-procurement feasibility study. The component will be complemented by legal and regulatory e-

commerce work presently being funded by USAID under the New Economy Project. The E-government component's activities are described below.[17]

2.7 Efforts to automate the operations of the **fiscal agencies** through the use of ICT have been relatively successful. The Project will finance the necessary hardware, software and a limited amount of consulting services to permit the FSL to take a total of six additional fiscal agencies to the point where transactions with businesses and citizens could be carried out "on-line. In order to ensure maximum use of the services, a system of consultation with customers will be established. The Project Preparation Facility (PPF) will initially fund this system.

2.8 The fiscal agencies were chosen using a matrix that included eight criteria including revenue collected, volume of transactions and periodicity.[18] The fiscal agencies will be put on line in two stages, beginning with the agencies that scored highest in the aforementioned matrix.

2.9 In the **first stage**, expected to be completed during year two of Project implementation, systems will be put in place to permit on-line transactions (including payment) for the General Consumption Tax (a value-added tax), the Special Consumption Tax (excise taxes), the Education Tax and for the Income Tax retained by employers from their employees (pay as you earn, or PAYE).

2.10 In the **second stage**, during years three and four of Project implementation, payment for two additional taxes and fees would be put "on-line". These are the Corporate and Self-Employment Tax and the National Insurance and payments to the HEART Trust Fund (vocational training). The Project will finance the hardware, software and training required for putting the fiscal agencies on line.

2.11 Importers and exporters must deal with a multitude of agencies. The Project will provide resources to web-enable the processes of the most critical **trade agencies** (JAMPRO, Customs and the Trade Board Limited). This is expected to significantly decrease the time required to process transactions. FSL will ensure that the solutions developed are compatible with possible future e-facilitation processes.

2.12 The GOJ is committed to evaluating the need for an **E-procurement** system. The Bank will finance an e-procurement feasibility study.

3. Community Outreach (US$ 3.5 million)

2.13 This component will support the establishment or improvement of an estimated 60 Community Access Points (CAPs) in mostly marginal locations that would

[17] Details are in Booz Allen Hamilton, *Jamaica Information and Communications Technology Project-E-Government Component Feasibility Study*, April 5, 2002.
[18] Booz Allen & Hamilton Inc., *E-Government Component Feasibility Study, Consolidated Final Report*, April 5, 2002, Appendix A, page 103.

ordinarily be passed over by commercial providers. The component's objective is to enable low-income citizens to gain access to information and services available online (employment exchange, market information, distance learning, technical assistance, local projects) and conduct transactions using the Internet. CAP sites will typically offer computer-assisted services such as training, desktop publishing and data input.

2.14 The Project will finance: i) the equipment and software required by a basic 5-computer CAP site; ii) networking and administration software; iii) annual conference or meeting of CAP staff and support personnel for promotion and the sharing of experiences; iv) scholarships for two thirds of the cost of basic computer training by low-income users and for ½ the cost of computer time use by school teachers, community groups or individuals with worthwhile community development initiatives; and iv) the costs of implementing the program in a way that gives technical support and engages the local community as a means of fostering sustainability.

4. Human Capital Development (US$ 4.7 million)

2.15 Jamaica's training institutions presently offer a broad spectrum of ICT training. Accordingly, all of the training under the present component will be carried out by existing institutions that have demonstrated a track record in providing training.[19] The project will finance an ICT partial scholarship program that will fund two thirds of the costs of ICT training for around 900 eligible individuals over the next 5 years. The other one third will be financed by the scholarship recipient and/or their employers. Demand studies and ICT sector employment trends suggest that the largest demand for scholarships will be for the kinds of training provided under the CIT and CISCO Academy programs, and these programs have been used in quantifying resource requirements. The CIT at Montego Bay (the initial one) and other centers follow a well-established curriculum and the trainers are certified. The CISCO Academy in Jamaica is part of a network of more than 4,000 centers around the world. However, the actual types of scholarship that will be funded will be determined by the demand of the scholarship recipients. In practice, the key to success in this dynamic sector is flexibility, to enable training to respond swiftly to market demand, and training under the program may cover a broad spectrum of activities, including, for example, call center supervisory staff, specialized data and transactions processing, graphic and web content development, computer assembly, repair and maintenance, systems management and software design.

2.16 Through this programme, the MIC will be able to use the funds available to provide the human resource infrastructure to encourage foreign direct investment. The trainees themselves will cover one third of the costs of training.

[19] In the ICT field, there is a well-developed system of certification for instructors and training institutes, as well as standardized tests that are used to measure the proficiency of graduates.

2.17 The Project will fund the development and implementation of a system to monitor the performance of ICT graduates from the training programme. The system will be developed early in the project, and will also provide for increased virtual and live networking among graduates and employers. The system will enable the MICT to swiftly adjust its scholarship program, keeping it flexible and responsive to developments in the ICT job market, and facilitating gender balance in the ICT training program.

5. Project Costs

2.18 Total Project Costs have been estimated at US$23 million, of which US$17 million would be financed by a Bank loan. Project costs by component are summarized in the table overleaf.

2.19 The GOJ will pay for all the recurrent costs of CITO and FSL associated with the project, for local costs associated with the establishment and management of a training monitoring system, for the local costs associated with the e-procurement feasibility study and for the Bank inspection fees. These costs are estimated at US$ 3.7 million, or about US750,000 per year. Beneficiaries will fund an additional US$ 2.3 million of counterpart contribution, as they pay for counterpart costs associated with the Community Outreach Component (partly in kind) and for about one third of the cost of training under the human capital component.

	Total Cost By Source (US$ 000)				
	IDB Loan	GoJ -	Benefi-ciaries	TOTAL PROJECT	%
Strengthening MICT					
Project Management and Admin.	570	-	-	570	3.0
ICT Strategic Development and Program Monitoring	700	1,400	-	2,100	11.2
E-export marketing campaign	100	-	-	100	0.5
Enhancement of Legal Framework	600	-	-	600	3.2
GOJ Staff Training (MICT & Other aencies)	110	-	-	110	0.6
Midterm and Post-project evaluation	120	-	-	120	0.6
Audits	-	100	-	100	0.5
Strengthening MICT total	**2,200**	**1,500**	-	**3,700**	19.8
e-Government					
Fiscal Agencies	4,300	1,700	-	6,000	32.1
e-Procurement	260	20	-	280	1.5
Trade Agencies Online	440	180	-	620	3.3
e-Government total	**5,000**	**1,900**	-	**6,900**	36.9
Community Outreach					
CAP Sites Establishment	500	-	300	800	4.3
Network Software	100	-	-	100	0.5
Promotion, Networking and Training	600	-	200	800	4.3
Scholarships and practice vouchers	400	-	300	700	3.7
Mgmt, and tech. assist. to communities	1,000	-	-	1,000	5.3
Community Outreach total	**2,600**	-	**800**	**3,400**	18.2
Human Capital Development					
ICT Scholarship Program	3,000	-	1,500	4,500	24.1
ICT Training Monitoring and Job Placement System	100	100		200	1.1
Human Capital Dev. total	**3,100**	**100**	**1,500**	**4,700**	25.1
COSTS BEFORE CONTINGENCIES AND FEES	**12,900**	**3,500**	**2,300**	**18,700**	**100.0**
Contingencies	2,330	-	-	2,330	12.5
Inspection fee (FIV)	170	-	-	170	0.9
Credit fee	-	200	-	200	1.1
Interest	1,600	-	-	1,600	8.6
TOTAL PROJECT COST	**17,000**	**3,700**	**2,300**	**23,000**	**123.0**

NOTE: **PPF Funding**: Funding is for Project Management and Administration (US$188,300); ICT strategy development and program monitoring (US$96,005); enhancement of legal framework (US$150,000) and; contingencies (US$15,695).

2.20 The disbursement schedule is shown in the table below.

Counterpart financing US$ 000				IDB Loan
Year	GoJ -	Scholarships Beneficiaries	Community Outreach Beneficiaries	
1	700	300	100	4,000
2	700	300	150	4,000
3	700	300	150	4,000
4	800	300	200	3,000
5	800	300	200	2,000
Total	**3,700**	**1,500**	**800**	**17,000**

III. INSTITUTIONAL FRAMEWORK AND PROGRAM IMPLEMENTATION

A. Borrower and Executing Agency

3.1 The Borrower will be the Government of Jamaica. Project implementation will be the responsibility of the Office of the Director General (ODG) of the MICT. This Office has been implementing the INTEC project, with emphasis on training in ICT and E-export development. A Project Manager, an Administrative Assistant and a Finance/Procurement Officer will be hired to work full time on the Bank Project. The Project Manager will assist the Director General in the management of this Project.

3.2 A Steering Committee, comprised of the main stakeholders, will advise the Project Manager. The Steering Committee will include representatives from: Ministry of Finance and Planning (MOF), Fiscal Services Limited; Central Information Technology Office; Human Employment and Resource Training Trust/National Training Agency (HEART/NTA); CAP NGO; the Planning Institute of Jamaica (PIOJ), and Jamaica Promotions Corporation (JAMPRO). The project Steering Committee will be established before first disbursement of Loan funds.

B. Project Implementation[20]

3.3 **MICT Strengthening Component.** The Project Manager under the supervision of the Director General will be responsible for daily project supervision, and will be assisted by an Administrative Assistant and a Finance/Budget Officer. Consultants will be hired to support the Project Manager, particularly in the monitoring, auditing and evaluation of the Project. To ensure effective supervision of the Project, the Project Manager will receive constant feedback from implementing partners through the Project Steering Committee. All components related to **MICT strengthening** will be implemented directly by the MICT.[21]

3.4 **Community Outreach Component.** The **community outreach component** will be managed by a Non-governmental Organization (NGO) or private firm selected and contracted by the MICT through a competitive bidding process. This institution (the CAPI) will be responsible for managing the initiative for the duration of the Project. A draft Operations Manual for this component has been prepared and will be finalized and adopted for the implementation of this component before any disbursement of funds for this component is made. The bidding documents for the selection of the CAPI and the drafting of the contract is being funded from the Japan Consultants Fund.

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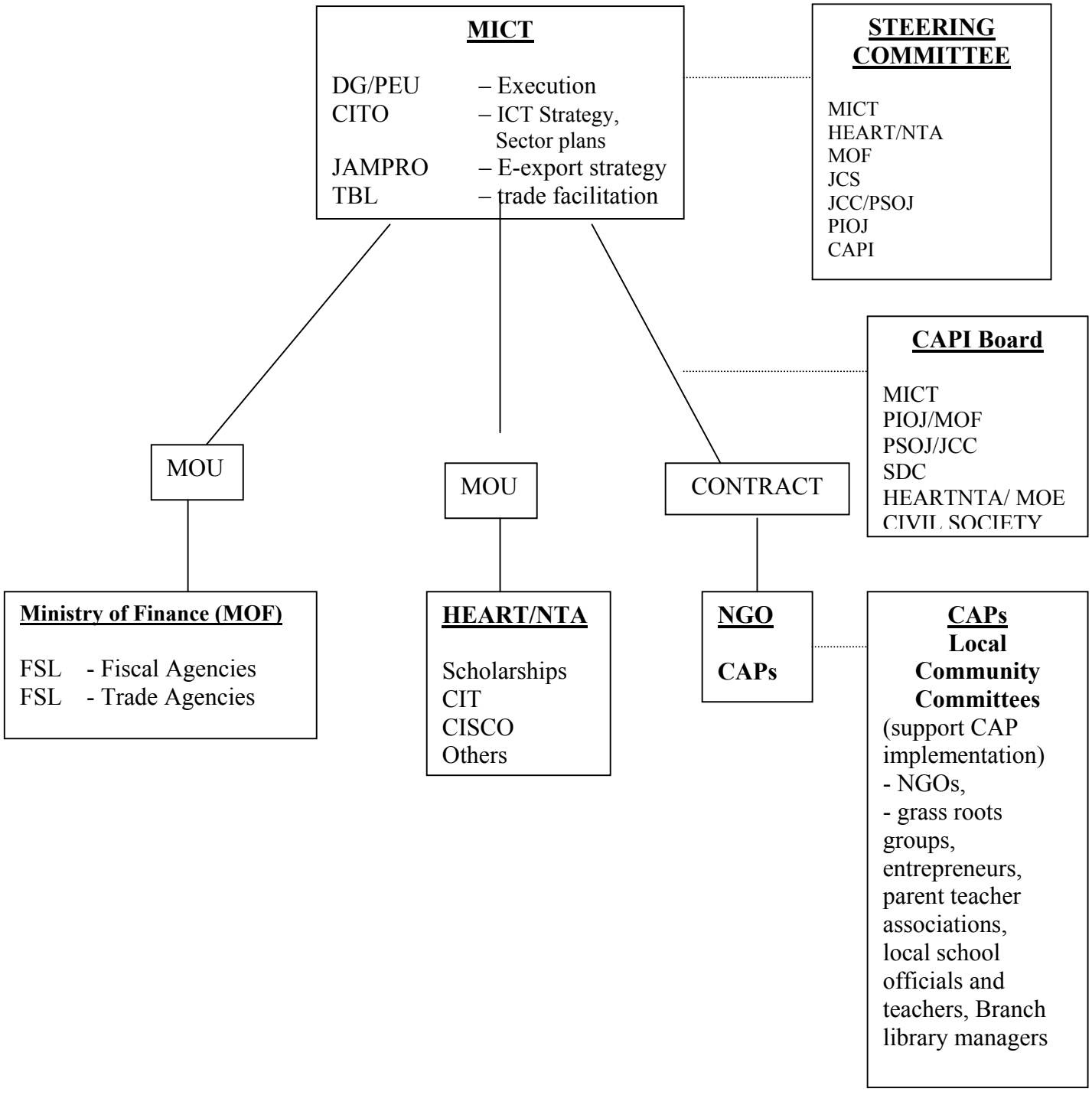
[20] A schematic presentation of project implementation is shown in Chart I in the next page.
[21] The management structure of the Project is presented schematically in Chart 1.

Chart 1

INSTITUTIONAL ARRANGEMENTS



3.5 The responsibilities of the Board will be policy guidance and oversight and will include core representation as follows: – MICT, the Private Sector Organization of Jamaica; community based organizations/Social Development Commission; Ministry of Education/HEART NTA, and Planning Institute of Jamaica/Ministry of Finance.

3.6 The CAPI will be responsible for the administrative and operational aspects of the Community projects as follows:

a. Instituting internal administrative procedures, and developing an open process for establishment of CAPs to ensure wide participation at the community level.

b. Implementing a monitoring and technical support mechanism capable of measuring the contribution of this component to the Project Purpose;

c. Developing community awareness and provide technical guidance to communities aspiring to establish a CAP site, with emphasis on the relatively more disadvantaged communities and sorting out viable proposals before submission for vetting;Ensuring gender equality to access and monitoring the results;

d. Conducting technical and managerial training for operator-managers, and trainers who will be eventually entrusted with training at the individual CAP sites;

e. Supervising networking and time management software development;

f. Evaluation of the applications for selection of CAP sites. In general no application will be presented for evaluation unless it meets sustainability requirements; and

g. Developing mechanisms to ensure that CAPs that fail to reach their objectives return the equipment.

3.7 The CAPI will ensure that the community satisfies a number of conditions before it is granted CAP establishment support. First, the proposals may be presented by an NGO or local business leader, or by a consortium of institutions. In the case of a consortium, the ultimate responsible party must be a single firm, NGO or agency. Second, a local branch of a large national institution may be the lead agency (e.g. school, post office or a branch library), provided that financial and administrative management is local. Third, proposals must meet a number of viability and service conditions, such as:

a. No CAP establishment (e.g. cyber cafe, library with Internet connected computer lab) is already found within 2 km. of proposed CAP site; the lead agency must agree to a minimum level of service (e.g. 40 hours of operation per week, of which 20 must be evening and weekend hours);

3.8 A community will need to satisfy a number of conditions before it is granted CAP establishment support. First, the proposals may be presented by NGO or local business leader, preferably by a consortium of institutions (to aggregate demand and engage the community), but the ultimate responsible party must be a single firm, NGO or agency. Second, a local branch of a large national institution may be the lead agency (e.g. school, post office or a branch library), provided that financial and administrative management is local. (Monies collected are managed locally). Third, proposals must meet a number of viability and service conditions, including:

a. No CAP establishment (e.g. cyber cafe, library with Internet connected computer lab) is already found within 2 km. of proposed CAP site; and The lead agency must agree to a minimum level of service (e.g. 40 hours of operation per week, of which 20 must be evening and weekend hours);

b. The proposal must include a concrete plan to serve local community needs. This plan may be based in part on project support, which could enable, for example, teachers to be trained and get experience after school hours.

c. The proposal must specify the community contribution to the project. This will include the locale, the basic furniture, and other materials and equipment.

d. The proposal must explain in detail the way it intends to select beneficiaries of user training scholarships and user vouchers available under project sponsorship in order to promote local development. This is likely to involve the designation of a "local council" that will help select beneficiaries.

e. The proposal must include a clear business plan, including projected cash flow

3.9 **Human Capital Development Component**. **Human Capital Development Component**. The Office of the Director General of the MICT has extensive experience in implementing projects with HEART/NTA and has developed MOUs for that purpose. One such MOU was prepared for the implementation of the **human capital development** component of this Project. Additionally, a draft Operation Manual for the component was prepared. Before any disbursement of funds for the Human Capital Development component is made, the Memorandum of Understanding (MOU) between MICT and HEART/NTA will have been signed and an Operations Manual, acceptable to the Bank, will have been adopted for the implementation of this component.

3.10 Periodically MICT will announce the availability of scholarship funds for the ICT training programs, establishing the conditions, prerequisites and criteria for evaluation of applications. These criteria for selecting students will include:

a) applicants must be 17-years or older

b) must have a minimum of 4 CXC/O-level equivalent, with good passes in Mathematics, English Language, a science and/or computer science

c) must be interviewed by a selection panel

d) must take the specialized tests developed by CIT, CISCO and other providers.

e) m-ust meet income criteria as defined in the operations manual

3.11 Courses will be taken at CIT approved institutions and at institutions that have industry certification by major software and hardware suppliers.[22] In the case of multi-course or module program, trainees with scholarships will have to demonstrate successful conclusion of each step of courses/programs to continue to have the necessary funding to work towards a certificate. HEART will prepare financial reports to MICT on a quarterly basis, following existing procedures.

3.12 **E-Government Component.** The Ministry of Finance, through the Fiscal Service Limited (FSL) will manage the activities of the **e-government** component. A draft MOU between the MICT and the MOF has been prepared[23]. Additionally, a draft Operations Manual that details the mechanism for implementation of this component has also been prepared and agreed with the Bank. Before any disbursement of funds for the E-Government Component is made, the Memorandum of Understanding (MOU) between MICT and the Ministry of Finance and Planning (MOF) will have been signed, and an Operations Manual, acceptable to the Bank, would have been adopted for the implementation of this component.

C. Financial Management

3.13 The MICT, through the ODG, will have the following responsibilities: (i) establish specific, separate bank accounts for the management of the loan and local counterpart funds; (ii) prepare and submit disbursement request to the Bank and the corresponding justification of expenses; (iii) maintain adequate financial, accounting and internal control systems for the management of the program's

[22] In the ICT industry, there is a well developed system for certifying training providers. These certification programs establish a high degree of uniformity in the quality of training.

[23] Draft MOUs between the MICT and the MOF and between the MICT and HEART/NTA are in the Project files.

resources; (iv) maintain an adequate disbursement support documentation filing system, available for review by the Bank's personnel and external auditors; (v) prepare and submit to the Bank the annual financial statements regarding project's expenses, and the semi-annual Revolving Fund Status Reports.3.13 The system of internal controls and financial reporting will include at least the following elements:

a. The program's accounting system will be computerized using a personal computer and appropriate accounting software. It will also be documented in the form of a user manual. It will permit preparation by source of funds of monthly and end of year Statements of Program's Investments and Cash Flows. Also, its computer program will include an audit trail and the system should be user friendly, so as to permit its application in other participating agencies should the need arise. Finally, the system should permit the consolidation in the Program's financial statements of those counterpart expenditures effected by MICT, MOF and beneficiaries.

b. Separate bank accounts will be kept for Bank's loan revolving fund and for the resources from local counterpart. Commercial bank accounts will be opened, for the Bank's revolving fund and local counterpart, before first disbursement. The revolving fund will amount to a maximum of 5% of the value of the loan. The GOJ system for disbursement of external funds will be maintained for the Bank loan resources. In this system, payments are effected, at the request of the executing unit through the Ministry of Finance, directly by the commercial bank where the funds are deposited. All requests for payments or actual payments with local counterpart for Program's activities will originate at the PEU. The Executing Agency will open the bank account (s) required to deposit the disbursements of the financing, except where special treatment is to be applied.

c. An adequate number of personnel will be allocated to the PEU in order to ensure the appropriate segregation of the financial administration functions of the project in accordance with international accounting standards (IAS). Hiring a full time Finance/Procurement Officer and MICT Finance Department providing a supervisory role will achieve this.

3.14 As agreed with MOF starting with fiscal year 2003-04**,** for all programs' incremental recurrent costs, especially salaries, allotments will be opened under the participating Ministry recurrent budget. Project's accounting will be subject to internal audit from MICT's Internal Audit Office.

D. External Audit

3.15 The MICT shall submit to the Bank annual financial statements regarding the use of the project's resources, within 120 days after the end of each fiscal year. These statements shall be audited by a firm of independent external auditors acceptable to the Bank, based on the terms of reference previously approved by the Bank.

The audit firm will be contracted for a period of at least three years, subject to a contractual termination clause in case of inadequate performance. The audit firm will be selected in accordance with the Bank's audit bidding procedures and the audit cost will be covered by the Bank's financing.

E. Procurement

3.16 The Executing Agency will follow Bank policies and procedures for procurement of goods and services financed by the Bank. The Executing Agency will use international competitive bidding for all contracts valued more than US$350,000 in the supply of general goods and services; and US$200,000 in the supply of consulting services. Consultant services will be hired in accordance to Bank procedures.

F. Maintenance

3.17 The Program contains the necessary resources to ensure the maintenance for the Program's financed investments. For these resources to be covered with local counterpart MOF has agreed to open allotments, starting with fiscal year 2003-04**,** under the participating ministries recurrent budget and to keep them open after project completion.[24] In the first quarter of each fiscal year, beginning with the fiscal year after which the systems are put in place and for five consecutive years, the borrower will submit to the Bank, demonstration that the Program's investments are being maintained in accordance with requirements to be agreed upon with the Bank. Part of these requirements will be proof that the maintenance recurrent allotments remain opened and funded.

G. Project Preparation Facility (PPF repayment)

3.18 The GOJ will utilize resources from the 015/PPF-JA for the preparatory activities of the Program. Resources expended, amounting up to US$450,000 will be recovered from the first disbursement under the proposed loan.

H. Supervision and Evaluation of the Program

3.19 Given the innovative nature of the Project, close supervision will be required during the first year of implementation**.** Monitoring will take place through regularly scheduled progress reports and technical reports throughout the life of the Project. Reporting and monitoring will be the primary responsibility of the Project Manager in the Office of the Director General of MICT. During the first two years of project implementation the Project Manager will prepare quarterly progress reports documenting activities undertaken during the previous quarter and a work plan for the following period. The periodicity of these reports will decline to every 6 months after year two of project implementation. For the preparation of these reports, the Project Manager will receive technical inputs

[24] Allotments include funding CITO at level of US$300,000 per year and FSL maintenance an renewal of equipment at a level of at least US$1.0 million.

from partner institutions, including the Ministry of Finance – FSL, HEART-NTA, and the contractor/NGO in charge of implementing the Community Outreach component.

3.20 Assessments of the Project will take place annually. These assessments will evaluate progress achieved and determine if adjustments are required. The assessments will be undertaken by the MICT in close collaboration with the Bank. If required, the Project Manager could hire consultants to assist with the preparation of an annual assessment, supported with resources from the budget of the MICT Strengthening component. The Office of the Director General of the MICT will have resources under the PPF to establish a base line of the main indicators and to do periodic sampling in order to measure progress in the project goals.

3.21 If a particular agency under the e-government component or an institution under the community outreach component is not performing adequately, the Project Manager will not authorize new commitments in support of that agency. The MOUs for the different components include language to this effect.

3.22 There will be support to the Director General's Office to implement a management information system (MIS) to permit the monitoring and evaluation of the Project. This MIS is being designed with funding from the Japanese Special Consultants Fund. The Bank will establish inspection procedures that include periodical evaluation missions, so as to ensure satisfactory progress and to verify compliance with agreed measures and benchmarks. The MOUs between the different agencies include the requirement that the information necessary to monitor progress be provided with adequate periodicity.

I. Midterm Review and *ex post* Evaluation

3.23 The Project Team agreed with the GOJ that a midterm review and an *ex post* evaluation of the Project will be carried out, and the terms of reference were agreed to. The terms of reference are in the Project files, and funding has been provided in the budget. Particular attention will be given to the evaluation of the institutional arrangements, and the performance benchmarks of the various categories of activities. The **mid-term review** will concentrate on the institutional aspects of project implementation and on some key outcome indicators and will be carried out three years from the date of loan effectiveness or when 50% of Project funds have been committed, in accordance with terms of reference agreed with the Bank. The key indicators are:

a. Telecommunications laws and enabling regulations enacted and implemented.

b. At least one Ministry implementing action plan to increase significantly the use of ICT in its operations. Possible ministries include agriculture, health or education.

c. At least four fiscal services provided on-line.

d. At least 4 trade agencies providing services on-line.

e. E-procurement feasibility study completed

f. Cumulative number of CAP sites operating equal to at least 15.

g. Number of users of CAP sites located in low-income communities equal to, at least, 1,200.

h. Users of CAP sites in relatively equal gender balance.

i. Cumulative number of ICT graduates equal 400.

j. At least 35% of ICT graduates are females.

k. Database and ICT labor market exchange in operation

3.24 The ***ex post*** **evaluation** will analyze project outcomes at the goal and purpose level. To measure outcomes at the goal level, an e-readiness assessment will be carried out using the methodology developed by the Center for International Development at Harvard University. The e-readiness assessment will measure progress with relation to the e-readiness assessment concluded in 2002.

3.25 While all aspects of e-readiness should be analyzed, the evaluators will determine if:

a. The telecommunications sector has been liberalized fully, and the sector is regulated by an independent regulatory body. This will be accomplished through the gathering of objective indicators such as teledensity for different services; rates compared to similar countries; and broadband availability. Additionally, qualitative information on competition in the sector will be obtained through interview with the main market players, particularly those competing against the leading carrier.

b. All GOJ agencies post key information on web sites and at least 10 agencies allow the public to conduct transactions on line.

c. There are adequate opportunities for public Internet access for those without access at home, school or work outside Kingston and the main tourist towns.

d. Many websites provide dynamic information on local topics and are updated at least several times per week

e. Many businesses in the community have incorporated the World Wide Web into their sales, marketing and customer service systems.

f. A vibrant marketplace exists for software and hardware with a competitive retail and wholesale market for these products.

3.26 At the purpose level, the ex post evaluation will be concentrated on the outcomes related to e-government, community outreach and human capital development. For the e-government component, financial and economic IRRs will be calculated, and user satisfaction will be compared with user satisfaction measured through a survey that is being funded by the PPF. For the human capital component, a survey will be carried out to confirm information on employment (to determine if it is related to the training) and on present salaries as well as salaries before the training program.

3.27 For the community outreach component, the evaluators will analyze the effects of the community outreach program in at least 15 communities chosen randomly. The consultants will determine the changes that have occurred in the ways people communicate, learn and trade as a result of the Project. The evaluation will also place special emphasis on process indicators that indicate (actual and opportunity) costs to service recipients, quality, community participation and decision-making during the project cycle as well as indicators to assess maintenance and sustainability. A methodology similar to the one developed for the SARI project of the MIT Media Lab may be used.

3.28 The *ex post* evaluation will be carried out two years after final disbursement of loan funds. Terms of reference for the *ex post* evaluation are contained in the Project Files and have been agreed with the Government. An amount equal to US$100,000 will be reserved for this purpose from counterpart resources.

IV. VIABILITY AND RISKS

A. Feasibility Summary

4.1 The Project Team has reviewed all available information regarding the Project and concludes that the Project is likely to have a significant positive effect on Jamaica's socioeconomic development, and that there are no known technical, environmental, financial, institutional or socio-economic obstacles to proper implementation. The MICT is a strong Ministry that has demonstrated capacity as a leader of ICT development initiatives in the country. This is an indispensable feature in a project of this nature and will enable swift response to implementation difficulties as they arise. To the fullest extent possible, the Project Team has attempted to anticipate issues and ensure that they have been considered in designing the Project, in order to maximize benefits accruing and reduce unexpected costs to a reasonable minimum. A very important feature of the design of the Project has been the process of consultation with civil society.

B. Technical Feasibility

4.2 The technical feasibility of the proposed Project has been established on the basis of the Project Team's review of the studies, basic designs and specification to verify that they meet relevant standards. The budget includes funds for contracting short-term consultants as needed, to supplement public sector expertise in managing various components of this project. This will ensure the technical capacity and experience necessary for timely Project execution.

4.3 Finally, the execution schedule (60 months) takes into account the nature of the activities financed and the amount of time required for carrying out the bidding process. It is the opinion of the Project Team that the schedule is realistic so long as sufficient resources are assigned from the GOJ budget.

4.4 The project design included the preparation of an Operations Manual for the Community Outreach Component (draft in the Project Files), an Operations Manual for Training Activities, and an Operations Manual for the E-government component. Detailed bidding documents are being prepared with assistance from Japan's Fund for Consulting Services (para. 4.7.)

C. Environmental and Social Feasibility

4.5 The Project inputs are basically technical assistance, training, computer equipment and software. The Project gives particular emphasis to providing connectivity and training to low-income individuals, in accordance with the criteria in the Operations manual Specific measures have been included to expand outreach to enable low-income people to use and benefit from the opportunities – for learning, communicating with relatives abroad and increasing

earnings – that are opened up by the project. Selection criteria have been developed and incorporated into the Operations Manual to ensure that low-income individuals and that all genders benefit fully from the Community Access Points.

4.6 The definition of the Community Outreach Program provides for extensive consultation with governmental agencies and civil society during project implementation. It builds on the experience of the UNDP-sponsored Jamaica Sustainable Development Network, and lessons learned from experience in CAP development worldwide.

4.7 The Logframe workshop that was undertaken during project preparation included valuable participation and input into project design from beneficiaries of the JSDN pilot project, as well as from government and civil society stakeholders. The issues of most importance raised during the meetings were those regarding consultation, transparency and weaknesses of local not- for- profit organizations and sustainability of the outreach interventions. An Operations Manual for the Community Outreach Component has been prepared and fully addresses those issues.

4.8 This operation is not classified as PTI or SEQ. Two components, however, are targeted at low-income individuals. The Community Outreach component (US$3.5 million) will be implemented in towns outside Kingston and the main tourist areas. The Human Capital Development Component (US$4.7 million) will be concentrated on high school graduates who generally have a lower income than university graduates.

D. Economic Feasibility

4.9 Export expansion is vital to the achievement of economic growth and employment in Jamaica. With the prospect of declining preferential treatment in traditional markets, Jamaica has to diversify its exports and raise its international competitiveness. While Jamaica has a significant comparative advantage in tourism, it is necessary to promote and develop other service sectors, particularly those that could provide higher wages and salaries. In fact, at present the services sector accounts for 60% of economic activity in Jamaica. Over the next five years, this proportion is expected to grow significantly which provides a great impetus for the country to develop the ICT sector. Jamaica has many attributes necessary to participate actively in the global information industry, including labor costs that are relatively low in comparison with the U.S. and other developed countries; linguistic, cultural and time-zone affinities with major markets in North America; relative transport convenience (for air-freight-oriented information services); and an open environment for private investment.

4.10 The purpose of the Project is to increase the use of ICT in Jamaica through a series of activities expected to generate synergies and network externalities. There is no reliable method of estimating the benefits of investment associated with the introduction of new information and communication technologies in a

country. The 1994 World Development Report shows rates of return on investments in telecommunications (mostly telephony) in the order of 20% on average. Actual returns are believed to be higher because these estimates only take into account profits captured by telecom operators but not the network effects on the overall structure of the economy. These network externalities are perceived by the overall economy through expanded markets for goods and services, greater specialization between firms, and improved management structures. Network effects are difficult to measure but are known to be significant; the available evidence suggests they are probably larger than those associated with other kinds of infrastructure development.[25]

4.11 Investments in information technology promise an even higher pay off than telephone infrastructure in four areas. First, they increase the productivity of service sectors that rely on information processing and management. Second, they expand the market – in ways beyond what traditional telephone lines can accomplish - and enhance competition. Third, they offer the prospects of extraordinary changes in the ways and periodicity in which people get educated and upgrade their skills. Finally, they enable the establishment of low cost networks of peoples with similar problems and interests, thus potentially enhancing mobility across cultural and geographical barriers.

4.12 The E-government component is expected to reduce government costs but more importantly to reduce the costs faced by citizens as they transact with government. The net savings that would accrue from implementing e-government in the fiscal agencies has a pay back period of five years.

E. Institutional Feasibility

4.13 Jamaica's civil service is well equipped to manage this project. Management staff and personnel expected to manage e-Government activities are well qualified and thoroughly knowledgeable in ICT applications for development. The project will expand and improve on training activities that the MICT has been executing with own funds under the INTEC project. FSL has been successful in automating the "back office" operations of the fiscal agencies and has succeeded in taking the Customs Service to a full "transaction mode." The Project will profit from an extensive telecommunications infrastructure that is relatively well developed and is rapidly being upgraded by private firms in a competitive environment.

4.14 The Community Outreach component will be outsourced to an experienced NGO or private firm, in part to increase effectiveness but also in part to reduce political pressure on government during the process of awarding of establishment grants, training and support to community initiatives using ICTs. The Human Capital Development Component builds on extensive country experience with vocational training initiatives. Because ICT job opportunities are still limited, funding for

[25] See David Canning's "Telecommunications, Information Technology and Economic Development", Consulting Assistance on Economic Reform II, Discussion Paper 3, December 1999. (www.cid.harvard.edu/caer2/htm/framsets/fr_cont.htm).

training will be outsourced to reputable institutions, subject to close monitoring and flexibility in terms of subject areas to be funded, to enable MICT to redirect funds to higher profit fields as needed.

F. Financial Feasibility

4.15 Total operating and capital replacement costs of the Project in the future have been estimated at US$ 1.3 million per annum. This amount is not expected to be a major burden for Government, particularly as important saving will ensue. Given fiscal constraints, the design approach has sought to minimize post-project burden to enhance sustainability. For example, the main e-Government component will result in financial savings that exceed the investment and operating expenditures. The financial IRR of putting the fiscal agencies on-line has been estimated at 22%.

4.16 CAP sustainability is difficult to achieve in low-income rural communities. Their low purchasing power and low density of population (limited market) tend to undermine sustainability. The target of 60 CAPs to be established takes into consideration that only 85 communities outside Kingston and vicinity had at least 1,000 people in 1990. It also presupposes that a few CAP sites will be established in low-income marginal areas within greater Kingston. Furthermore, experience shows that the partnership of public service institutions with local management enhances the prospects of CAP sustainability.[26] To this effect, program design has taken into consideration the desire of Jamaica Library Service to expand its CAP network within its branch libraries (which cover practically all towns outside Kingston) and, in principle, libraries would be a major partner of rural communities wishing to establish CAPs.

G. Risks

4.17 **Brain drain of ICT graduates**. ICT skills are in high demand and Jamaica has been characterized by high rates of migration and therefore there is a risk that individuals trained under the Project will leave. Some redundancy in the training program has been introduced, especially in key information technology positions, to allow for expected turnover of staff. Additionally, trainees will post a bond to guarantee that they stay in Jamaica for a period of at least two years.

4.18 **Technical.** Public sector automation projects have failed in several countries. In the case of Jamaica, the "back office" automation of the fiscal agencies has already been accomplished by FSL, with significant funding from the World Bank, so the risk of cost overruns and/or time delays is reduced significantly. The

[26] Proenza, Francisco J., "Telecenter Sustainability: Myths and Opportunities" Journal of Development Communications, December 2001.
(www.fao.org/Waicent/FAOINFO/AGRICULT/ags/Agsp/pdf/ProenzaTelecenter.pdf

solutions proposed are reasonably simple and FSL has demonstrated its capability to implement similar solutions in Customs.

4.19 **Resistance to Change**. A risk with e-government solutions is that resistance to change (either in the government agency or by the citizens and businesses that use the service) will result in a low use rate. With the Jamaica Customs Department, the FSL demonstrated that it could develop an e-government solution that would be highly desirable by private sector businesses. In developing solutions for other fiscal agencies, FSL will need to continue to maintain customer focus to ensure that businesses actually transact with FSL on-line. Under a PPF that will fund the initiation of critical elements of the Project, focus groups of "customers" of the Fiscal Agencies will be organized to ensure that potential users targeted value the solutions designed. Additionally in depth interviews will be carried out with selected individuals.

4.20 **Outreach program becomes politicized and CAPs and other activities financed are unsustainable.** CAPs best function when they are managed locally by enthusiastic leaders-operators who are in tune with community needs. They are unfortunately also highly susceptible to political interference, yet nothing could be more detrimental to their sustainability than governmental meddling in CAP site selection or day-to-day operations. The separation of implementation of the CAP from direct Government management is part of the program's design effort to mitigate this risk. Other implementation guidelines incorporated into the Community Outreach Operations Manual will help mitigate this risk and further enhance the CAP sustainability. For example, if a CAP fails to reach its objectives the institution will be required to return the equipment. This has been the practice under the UNDP sponsored Sustainable Development Network, but would be nearly impossible to accomplish if it were managed directly by Government.

4.21 To enhance the prospects of sustainability, this project: (a) will concentrate on the larger communities (over 3,000 people in the first two years; over 1,000 afterwards); (b) will help local people familiarize with the benefits of ICTs through subsidized training, and by giving the opportunity to local people and groups to practice and realize their own ICT applications, especially during the first years of CAP operations; (c) will not support the establishment of CAPs within two kilometers of similar public Internet access facilities already in place, as doing so would undermine the financial viability of already established CAPs as they compete for a limited customer base of rural CAPs; and (d) will promote the establishment of CAPs through partnerships of local institutions, including private enterprises, NGOs and public service institutions (libraries, schools, post offices), as a means of aggregating demand for ICT services from each institution's constituency and of sharing operating expenses. An important characteristic of Jamaica that would help increase sustainability is the large numbers of Jamaicans living abroad, equal to the number living in Jamaica. This high demand for connectivity will help ensure sustainability. It is expected that even if all the Project financed CAPs do not become sustainable, a demand for connectivity will be promoted, and this will encourage the establishment of new

CAPs to replace project–financed CAPs that do not become sustainable. The creation of this demand has occurred in countries such as Chile and Canada.

JAMAICA
(JA-0116)
INFORMATION AND COMMUNICATIONS TECHNOLOGY PROJECT
LOGICAL FRAMEWORK

NARRATIVE SUMMARY	PERFORMANCE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
GOAL			
Contribute to increase Jamaica's readiness for the network world, in the public and private sectors and civil society, from Stage 2 to Stage 4 in several indicators (refers to the methodology developed at Center for International Development, Harvard University)	By the second year following project completion the following indicators would have moved from Stage 2 to Stage 4 : 1. The telecommunications sector has been liberalized fully, and the sector is regulated by an independent regulatory body 2. All GOJ agencies post key information on web sites and at least 10 agencies allow the public to conduct transactions on line 3. There are adequate opportunities for public Internet access for those without access at home, school or work 4. Many websites provide dynamic information on local topics and are updated at least several times per week 5. Many businesses in the community have incorporated the World Wide Web into their sales, marketing and customer service systems 6. A vibrant marketplace exists for software and hardware with a competitive retail and wholesale market for these products	Copy of E-readiness assessment conducted by independent evaluators, following the Harvard University Guide, two years after Project ends. (See para ____.)	**Sustainability:** • Macroeconomic stability in Jamaica is maintained (low inflation and declining debt/GDP ratio) • Open environment for private investment in Jamaica is maintained • International market for ICT services is strong
PURPOSE			
Efficiency improved, transaction costs reduced and Internet access improved for public and private sectors, and for civil society, and human capital in ICT increased	1. Ex post financial IRR for Fiscal Agencies equals at least 22% 2. At least 70% of online filers indicate a good degree of satisfaction with these services by 2008. 3. By the end of project execution, a total of 5,000 users are served by telecenters located in low-income communities and at least 40% of users are females 4. By end of project execution, at least 75% of scholarship graduates are in appropriate ICT-	1. Project Completion Report (PCR) 2. Survey results 3. Copies of project reports and results of surveys of telecenter users, in the PEU's files.Copies of bi-annual reports on referrals and monitoring by the placement and monitoring service, in the PEU's files.	• Macroeconomic stability in Jamaica is maintained (low inflation and declining debt/GDP ratio) • Open environment for private investment in Jamaica is maintained • International market for ICT services is strong

NARRATIVE SUMMARY	PERFORMANCE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	related income-generating opportunities 5. At least 35% of scholarship graduates are females	4. Copies of bi-annual reports	

NARRATIVE SUMMARY	PERFORMANCE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OUTPUTS			
1. MICT implements effectively ICT strategy, programs, and projects.	1.1 ICT introduced in 3 sectors in accordance with action/sector plans and performance indicators by 2008	1.1 Biannual reports by PEU on each action/sector plan.	a. Broadband costs continue to decline.
	1.2 Revised telecommunication legislation and associated regulations enforced as of mid 2003.	1.2 Copies of approved legislation and regulations in PEU files.	b. Rate of emigration of ICT graduates declines.
2. E-transactions enabled and in use in fiscal agencies, trade agencies and an e-procurement system in place throughout the government of Jamaica.	2.1 By the end of project execution, the percentage of filers using electronic means for filing is as follows: a) General consumption tax: 13% b) Income tax (PAYE): 13% c) Corporate and self-employment tax: 3% d) Education tax: 10% e) National insurance tax: 10% f) HEART transactions: 10% by 2008.	2.1 Records of PEU, FSL and COF/JA.	
	2.2 Export registration process, all exports and import and permit interface with customs: 50% of all trade exporters transactions online 80% of dealers and brokers transactions online 20% of individuals transactions online.	2.4 Records of PEU, TBL, JAMPRO, FSL and COF	

NARRATIVE SUMMARY	PERFORMANCE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
3. Sustainable access to ICT services and applications is expanded in low-income communities.	3.1 By the end of the 5th year of project execution, 60 small telecenters (on average, 5 computers connected to the Internet) are operating as fee-based services facilities open to the public. 3.2 . (This indicator could be improved and rolled into the Purpose.) 3.3 At least 40% of telecenter users earn incomes below the poverty line. 3.4 At least 35 of the telecenters are operationally self-sufficient after 3 years in operation; at least 30 telecenters generate revenue to replace and maintain capital investment. 3.5 By the end of the project, 120 telecenter operators and administrators are trained in and using technical and entrepreneurial skills. 3.6 By end of project execution, a minimum of 1,600 telecenter users have been trained and are applying basic computer and internet literacy skills. 3.7 By end of project execution, 600 users are trained and using business applications (e.g., word processor, spreadsheets, etc.); 300 users are trained and using Web design or special applications. 3.8 By end of project execution, 700 users or groups with community development initiatives (e.g., teachers, schools, small entrepreneurs, NGOs, health workers) complete their ICT application projects satisfactorily. 3.9 A community outreach portal that is user-driven and maintained by center operators and users, is in operation by the end of the 2nd year of project execution.	3.1 Monthly operational records of telecenters; biannual reports to the Bank by PEU; visual inspection by COF specialist. 3.2 Same as above. 3.3 Same as above. (How to derive this information to be determined.) 3.4 Same as above. Monthly financial records of telecenters. 3.5 Same as above. 3.6 Same as above. 3.7 Same as above. 3.8 Same as above. Narrative report for each project to be prepared by telecenter operators. 3.9 Evidence of existence of portal; access by all telecenters.	
4. ICT scholarship program expanded and placement and monitoring service established and in operation.	4.1 By the end of project execution, a total of 900 ICT graduates that meet market demand as specified by the Project Steering Committee, and at least 35% are females	4.1 Diplomas/transcripts issued; project quarterly reports 4.2 Number of requests for graduates (telephone calls, visits, web-site hits) 4.3 Annual HEART/TERC reports; project reports	

NARRATIVE SUMMARY	PERFORMANCE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
	Database and ICT labor-market exchange system established by the end of the 1st year of project execution.	4.4 Graduate survey 1 year after graduation	
ACTIVITIES			
	See project budget in Table II-1.	Financial records in PEU's files. Data in the IDB's Loan Management System.	a. At least 4 Ministries commit to development and implementation of ICT Action Plans, with performance indicators, by IV/2003. b. The Telecom Act, with provisions consistent with critical elements of the draft legislation and related regulations, is passed by Parliament by the end of 2003. c. Acceptance by filers. d. E-commerce and associated laws implemented by 2003. e. A sufficient number of credible and well-run service-oriented institutions operate in small low-income communities of Jamaica and welcome the opportunity to participate in the program. f. There is considerable interest throughout low-income communities in paying for ICTs to access communications and information services. g. Counterpart funding is disbursed in a timely fashion throughout the life of the project. h. Graduating rate of scholarship holders remains at over 90%. i. CITO identifies skill sets required for employment in government agencies.

NARRATIVE SUMMARY	PERFORMANCE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
			j. Decisions of the Steering Committee are responsive to market demand. k. ICT sector studies are up-dated regularly.

JAMAICA
(JA-0116)
Information and Communications Technology Project

Procurement Plan

Activity	Unit	No.	Year and Quarter of Advertisement	Contract Amount (US$ 000)	%IDB	Procedure
Project Manager	years	5	PPF/2002 – IV	300	50	National Competitive Bidding
Administrative Assistant	years	5	2003 - I	102	50	National Competitive Bidding
Finance/Procurement Manager	years	5	PPF/2002 – IV	180	50	National Competitive Bidding
Information Technology Authority Specialist	years	2	PPF/2002 - IV	360	100	International Competitive Bidding
Enhancement of Legal Framework	years	5	PPF-2002 -IV	600	100	International Competitive Bidding
Marketing and Public Relations firm	years	1	PPF-2002-IV	200	100	National competitive Bidding
Vehicles		2	2003 - I	60	100	National competitive Bidding
Component 1: Strengthening of MICT						
ICT Strategic Development and Program Management	years	5	2003 - II	700	100	International Competitive Bidding
E-export Marketing campaign	years	1	2003 - I	200	100	International Competitive Bidding
Staff training	years	2	2003 - III	100	100	International Competitive Bidding
Component 2: E-government						
Fiscal Agencies						
Hardware & software	years	2	2003 - I	2,278	50	International Competitive Bidding
Process Reengineering /Performance Metrics Program	years	1	2003 - I	230	50	International Competitive Bidding
Web, Network & System Administration Training	years	2	2003 - I	284	50	International Competitive Bidding
Application Migration	year	1	2003 - I	180	50	National competitive Bidding
Operation, Management and Infusion	Years	5	2003 -I	4649		
Trade Agencies						
Software	years	2	2003 - I	27	75	National competitive Bidding
Hardware	years	2	2003 - I	88	75	National competitive Bidding
Web Development and Connectivity with FSL	years		2003 - I	202.5	75	International Competitive Bidding
Training/Help Desk Support, Awareness Campaign	years	1	2004 - I	9.5	75	National competitive Bidding
E-procurement						
Component 3: Community Outreach						
CAP site establishment	Years	5	2003 – I	462	100	As specified in Operations Manual (OM)
Network Software	Years	5	2003 - I	100	100	As specified in Operations Manual (OM)
Promotion, Networking and training	Years	5	2003 - II	748	73	As specified in OM
Management and Technical Assistance	Years	5	2003 - I	949	100	As specified in OM
Component 4: Human Capital Development						
ICT Training, Monitoring and Job Placement System	years	2	2003-II	160	62.5	As specified in Operations Manual (OM)
Total budget covered by contracts listed above				$16,169		

JAMAICA ICT PROJECT: INTERMEDIATE INDICATORS

INDICATOR		Year 1	Year 2	Year 3	Year 4	Year 5
E-commerce legislation enacted	Planned	X				
	Realized					
Telecommunications legislation enacted	Planned		X			
	Realized					
Cumulative number of Ministries implementing action plans	Planned			1	2	3
	Realized					
Cumulative number of fiscal agencies on-line	Planned			4		6
	Realized					
Percentage of filers using e-filing in the agencies put on-line	Planned				5%	10%
	Realized					
Percentage of filers satisfied with e-filing	Planned				50%	75%
	Realized					
Four trade agencies on-line	Planned			X		
	Realized					
Percentage of transactions of four trade agencies carried on-line	Planned				20%	50%
	Realized					

Financial IRR Fiscal agencies (at least)	Planned					22%
	Realized					
Cumulative # of telecenters operating	Planned		15	30	45	60
(at least 5 computers each)	Realized					
Number of users of telecenters located in low-income communities	Planned		1,200	2,400	3,600	5,000
	Realized					
Percentage of telecenter users that are female	Planned		40%	40%	40%	40%
	Realized					
Number of telecenters that are self-sufficient after 3 years in operation	Planned					10
	Realized					
Cumulative number of ICT graduates	Planned		200	400	600	900
	Realized					
Number of graduates that are females	Planned		35%	35%	35%	35%
	Realized					
Database and ICT labor-market exchange system in operation	Planned		X			
	Realized					